U-World 2012

Making Real World Media by NFC-based Service Platform

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www.loveistouch.com

NFC

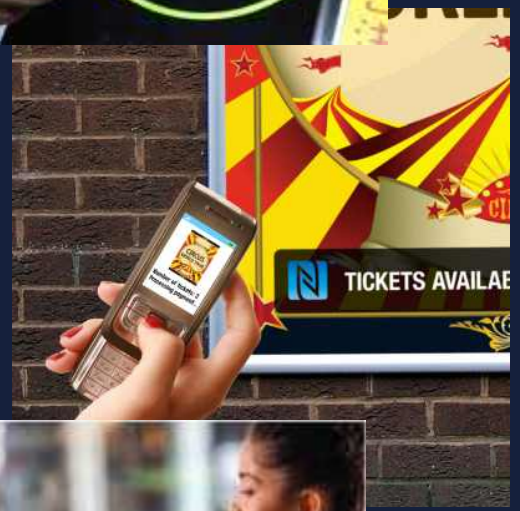
- Near Field Communications

A set of short-range wireless technologies, typically requiring a distance of 4 inch or less.

  - NFC operates at 13.56 MHz and at rates ranging from 106 kbit/s to 848 kbit/s.

If you have a NFC phone

- Your phone can play role of your credit card.
  - Card Emulation Mode
  - “pay by touching a Dongle”
- Your phone can read and write other RFID tags.
  - Reader/Writer mode
  - “buy movie ticket by touching a NFC tag attached to a movie poster”
- Your phone can interact with other NFC devices.
  - P2P(Peer-to-Peer) Mode
  - “The current paper business card will disappear in ten years”



Diffusion of NFC Phones

Samsung, NOKIA, LG and RIM announced that their all smart phones will have NFC.
Apple's iPhone 5 is predicted to have NFC.
In 2015, 50-80% of all the phones will have NFC.

NFC: New Future Comes!
NFC as the first step to Ubiquitous Society

- Web-Based Commerce
  - Internet made new way of commerce: Amazon, eBay
- Web-Based Media
  - Internet made new way of using Media: Google, Facebook, Twitter
- Smart Phone as Product-Service System (PSS)
  - iPod/iPhone/iPad + iTunes/AppStore
  - Android
- The Next Big Thing is NFC
  - NFC-Based Commerce
  - NFC-Based Media

Definition of NFC-Based Commerce
(evolved from Definition of U-Commerce (Lee 2005))

Defined as the ***commercial interaction***

- among ***providers, consumers, products, and services***,
- enabled and supported especially by
  - ***Seamless communication of each entity's (digital) information***
  - ***Using NFC technology.***

NFC-Based Commerce Business Models

- U-Referral Marketing (Lee & Lee 2006)
- U-Comparison Shopping (Lee & Suh 2006)
- U-Payment & U-Receipt (Lee, Ju & Jeong 2006)
- U-Recommendation (Kim, Lee & Kim 2006)
- Tag Match Advertising(Lee, Lee, Jun 2007)
- Home Order by RFID(Lee, Kim, Oh 2008)
- U-Insurance(Lee & Oh 2008)

Three Core NFC-Based Commerce Models

UbiComp 2008 Demo

A Referrer

Referral Marketing

Product itself will become sales platform !

Referrer's product

- A potential customer scans the NFC tag of a prior purchaser's product with a NFC phone
- If the potential customer buys products, the prior purchaser gets a referral fee

Comparison Shopping

Touch & feel the product real world, and buy it online !

- A consumer views the products in offline store, and then, receive information about online retailers
- When consumer buys product online through offline seller, offline sellers can receive incentives from other retailers

On-line Sellers

Tag-Match Advertising

The AdSense in Ubiquitous Era !

- Tag-Match Advertising exposes proper ads to users through 'Tag Match', a new process based on the information on users and the information and contents about tags

Advertisers

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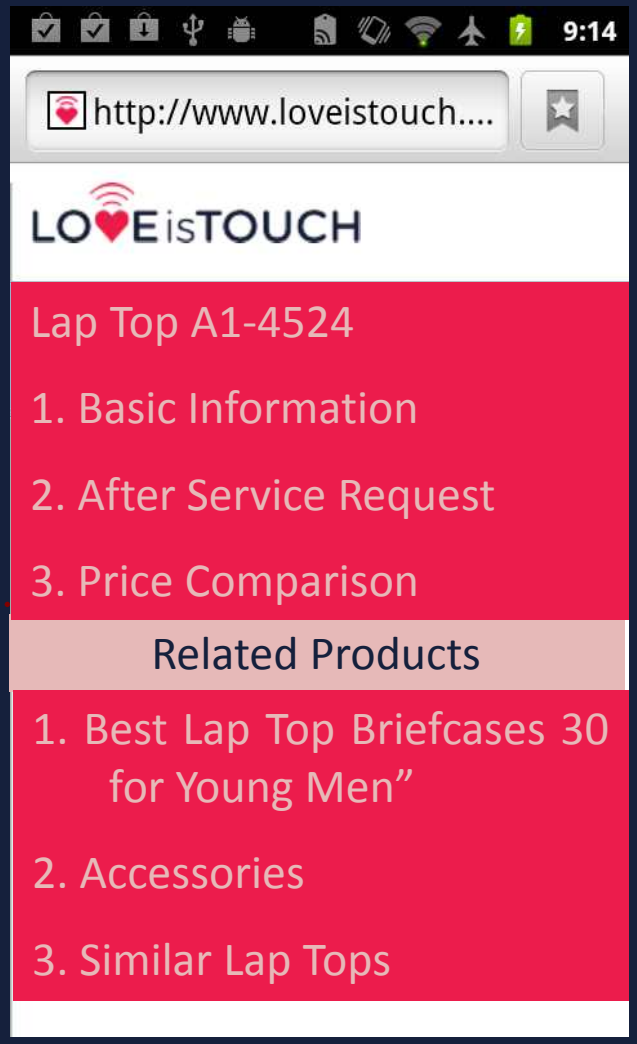
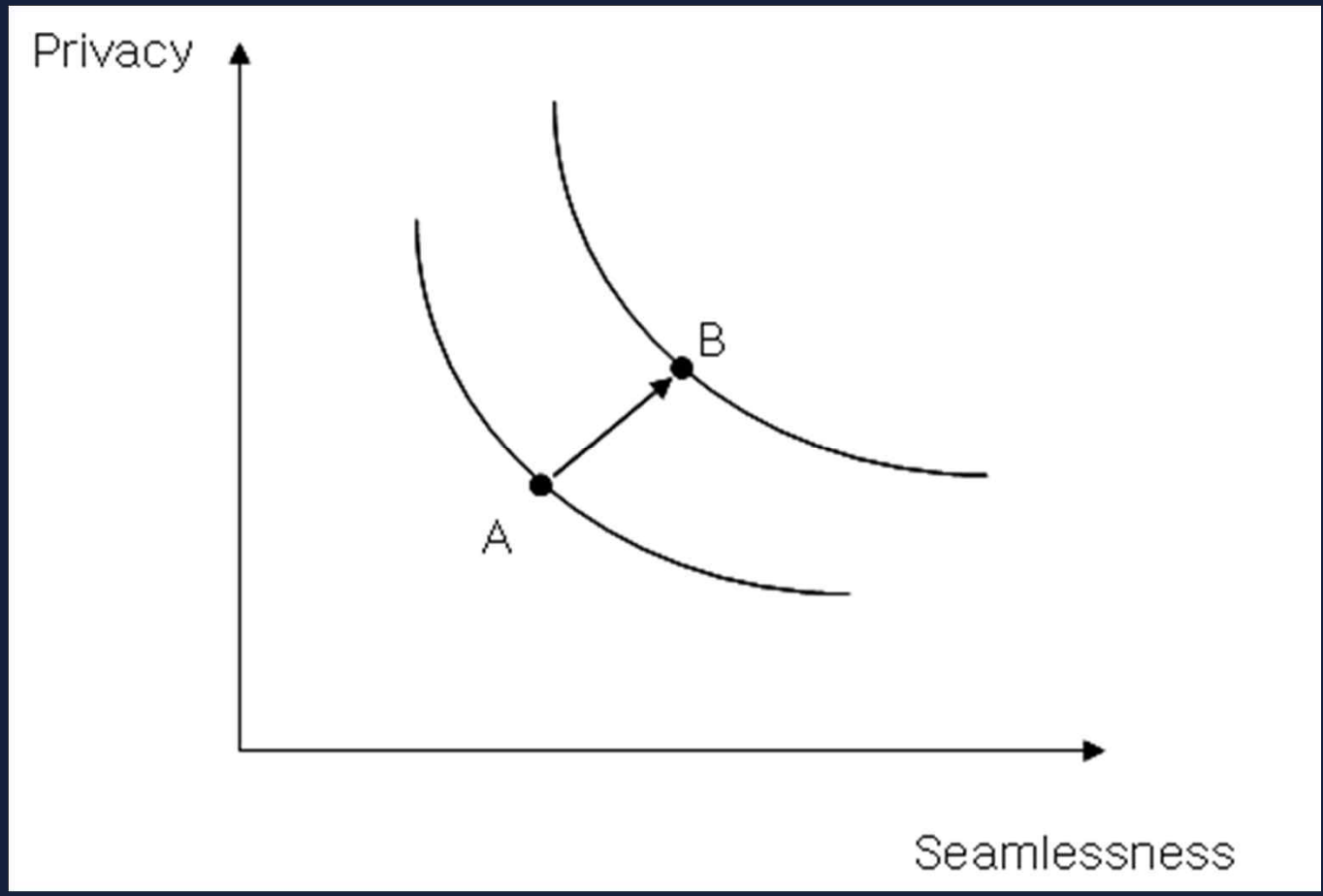
Tag Match Advertising(Lee et al. 2007)

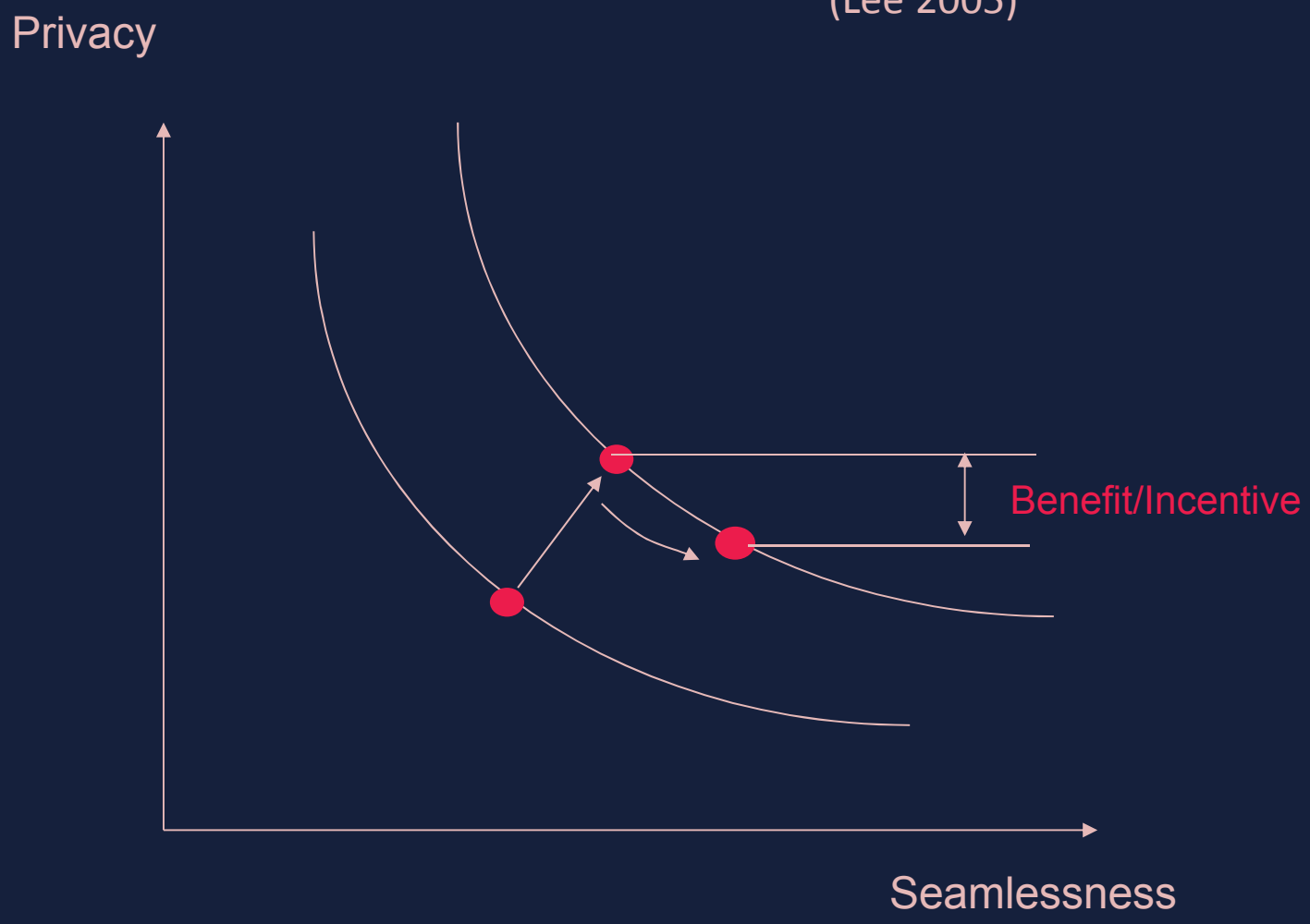


Tradeoff between Privacy and Seamlessness in Commercial Transaction (Lee 2005)



The Reduced Privacy (if any) should be compensated by a Benefit or Incentive

(Lee 2005)



Definition of U-Media (Lee 2006)

- The media in ubiquitous environment not only takes advantage of human biological systems, but also the digital systems of human beings while conventional media appeals only to people's bio-systems.
- U-Media is defined as a media where human creates and consumes content through not only human cognitive and perceptual processes but also through the interactions between surrounding digital systems
- c.f. Marshall McLuhan
  - Media are extensions of our senses into the public domain
  - A medium is a technological or artificial extension of a bodily faculty.

Examples of U-Media

- NFC-Embedded Display (Lee & Yoon 2007): e.g. Taxi Cab
- NFC-enabled Exhibition (Lee & Jun 2007):
  - NFC/ZigBee-Based(Lee & Jun 2009)
- NFC-Embedded Billboard (Lee & Lee 2007)
- NFC-Embedded Book (Lee & Park 2007)
  - Open Business Model for Augmented Book Integrated with Mobile Phone (Park, Lee, & Casalegno 2010)
- U-Camera & U-Photo (Lee & Ju 2007): The camera that takes photographs of digital links as well as real world image

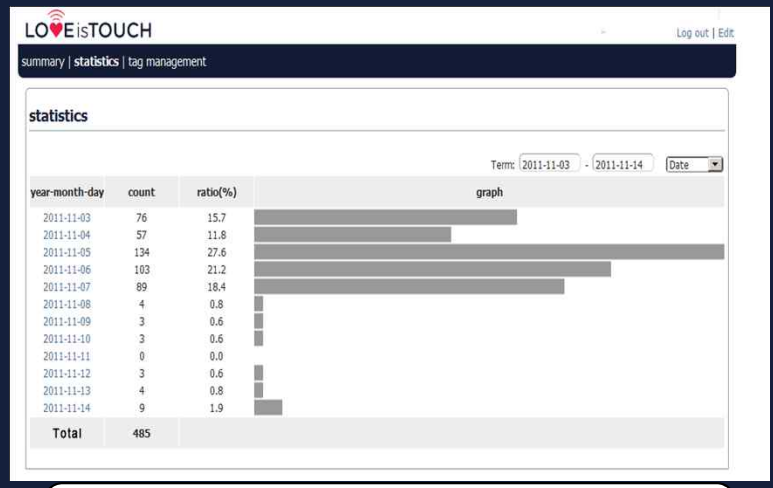
Exhibition Using NFC (Lee & Jun 2007)

	Docent	Audio Guide	IrDA	NFC
Ease of Use	Time-Constrained	Input Burden	Inaccuracy of Recognition	Burden of Tag Touch
Store of Information	No	No	Manual Store	Automatic Store
Extension of Information	Q & A Possible	No	Possible within the Database	Possible to link external Web
Commerce Integration	No	No	No	Possible
CRM	No	No	Weak	Strong

The 1st Fine Art Exhibition Using NFC in Korea, powered by LoveisTouch

At Seoul, Korea, Nov.2nd. 2011

Smart Service:
"Like", Comment, Commerce



Service Statistics

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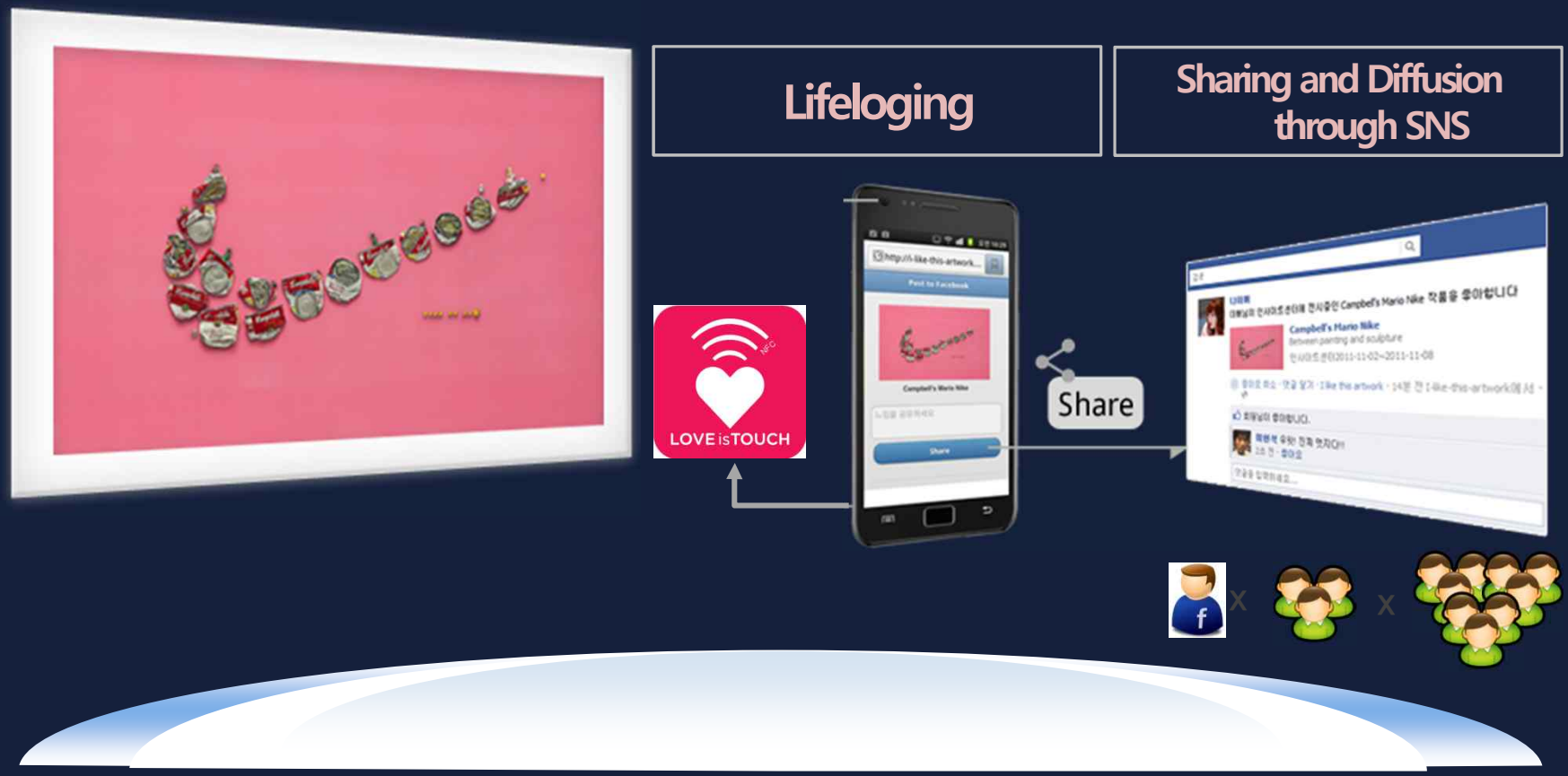
Utility Tag Service Example 2): NFC Gallery Tag Service



Creation of Tags: Tag URL, Webpage, & redirect (1)

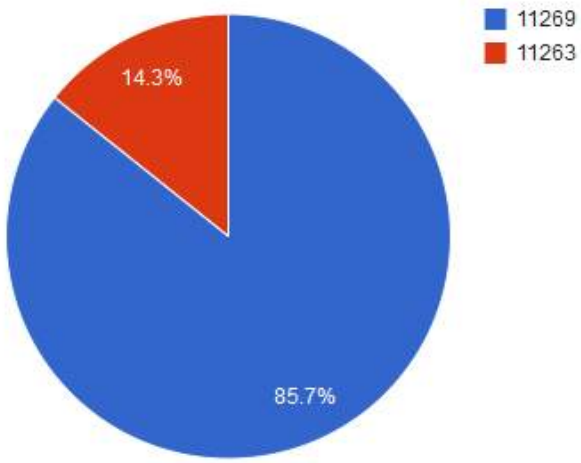
Creation of Tags: Tag URL, Webpage, & redirect (2)

Tag Usage Statistics

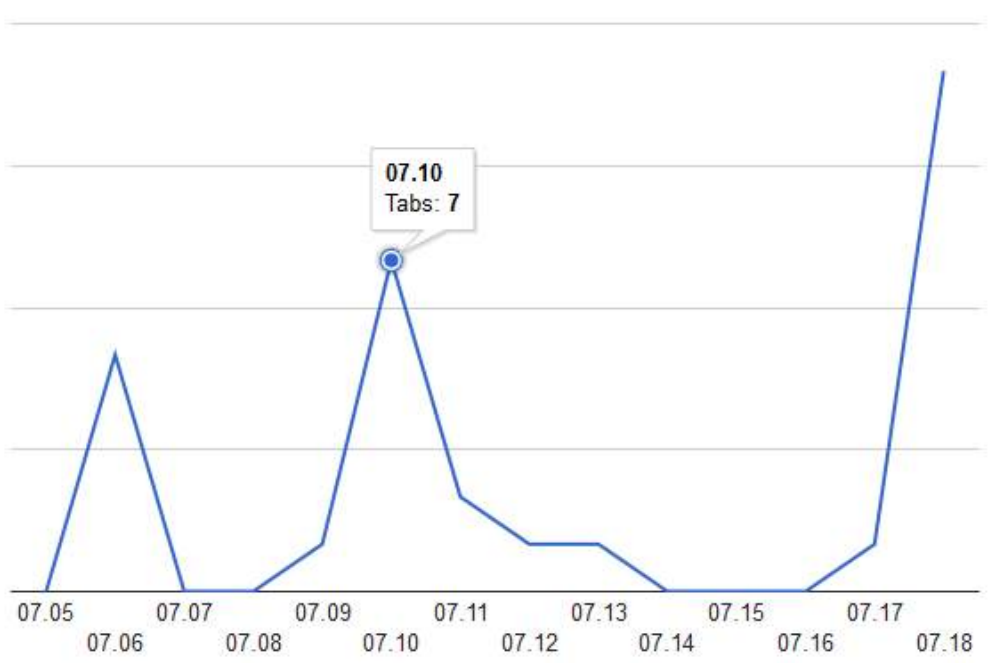
LOVEisTOUCH 태그 관리 통계 공개태그 coex logout

오늘 터치 수	어제 터치 수	총 터치 수
11	1	2862

일별 **TOP10** 07.10



일별 총 터치 수 07. 05 ~ 07. 18



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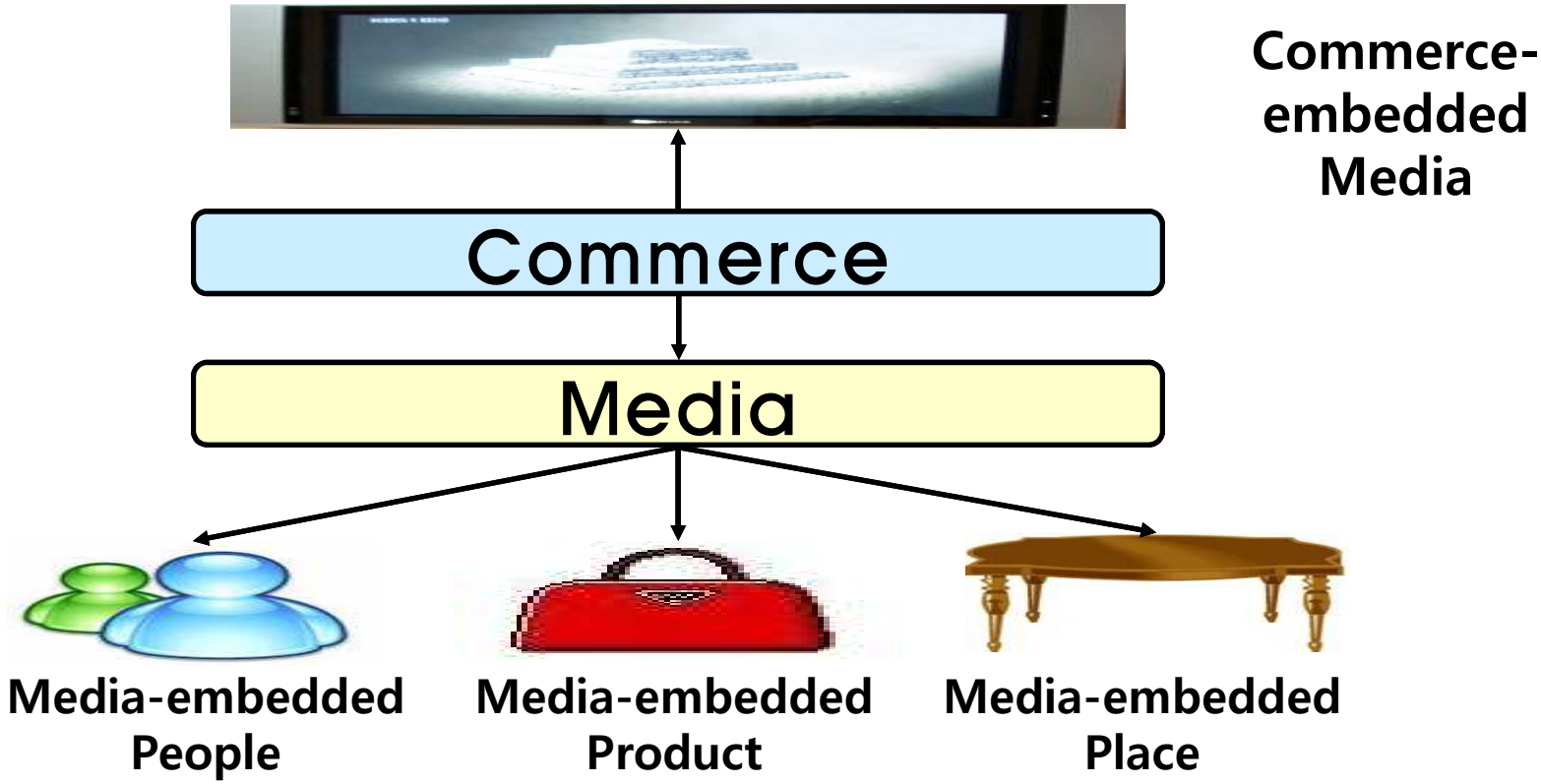
Commerce-Media Integrated Space (Lee 2007)



Media Embedded Place & Product

Media Embedded Place

- Ad Hoc Peer-to-Peer Recommendation in U-Environment(2006)
- Tag-Table(2007)
- RFID-Based Attendance Management(2007)
- U-Community(2007)
- U-Billboard(2007)

Media Embedded Product

- U-Referral Marketing(2005, 2006)
- U-Comparison Shopping(2005, 2006)
- Tag Match Advertising(2007)

Web as the existing Commerce-Media Integrated Space

- The current world wide web shows the commerce-media integrated space by itself.
- The notion of the commerce-media integrated service space is coined from observing the commercial evolution of the World-Wide Web (WWW).
- WWW has been regarded as a space from its inception. The space is a labeled space that has many links to other information or services.
- The success of WWW as a mediated space has resulted from the commercialization of the mediated space.
- From the lessons of WWW, it is believed that a pervasive space can be flourished by the commercialization strategy.

Commerce-Media Integration

- A key to profitable business model
- WWW as a Commerce-Media Integration
  - Content Match (Content-Commerce): AdSense
  - Key word Search (Content-Commerce): AdWords
- Place/People/Product become media.
  - Media-Embedded Place
  - Media-Embedded People
  - Media-Embedded Product
- Commerce-Embedded Media

- Media becomes commerce platform

Real World itself becomes media(Lee, K.J. 2007)

- Marketplace in old times integrated media & commerce
- With mass media, media and commerce became isolated.
- With interactive media technology. Media and commerce integrated in virtual interface.
- With ubiquitous technology, every space becomes commerce-media integrated space.
- Disappearing Line Between Journalism and Commerce
  - "Every space has become ad space", Steve Hayden, Wired, 2003.

A View on Ubiquitous Computing (Lee 2007)

- When Mark Weiser coined the term ubiquitous computing, there were no mobile phone diffusion and it seems that he did not consider much on the impact of mobile phones to our life.
- The revised definition of ubiquitous computing need to admit that the people are not such a natural human being, but a new human being with a digital device with her or his hands – mobile devices(phones).
- If we assume this changed situation evolved from the age of defining originally ubiquitous computing, we can envision that the future space will have ubiquitous links than computers. The space with ubiquitous links is more lightweight system than traditional ubiquitous computing system.

A new term: Mediarization

- Making something media
- Transforming something into media
- Embedding media function into something
- Becoming a sort of media

Mediarization of Real World

LoveisTouch

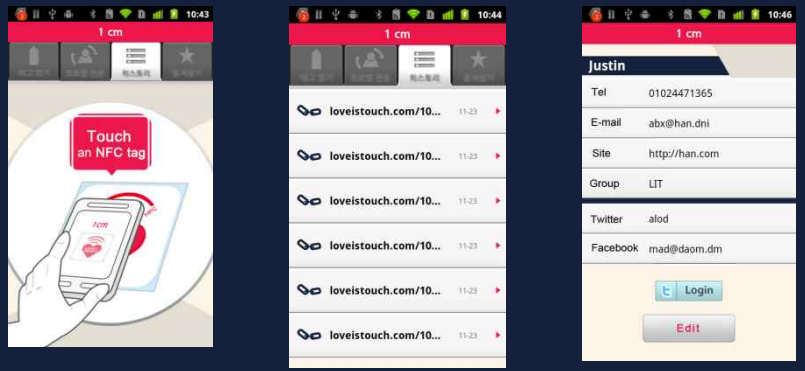
Mission: Smart Service Innovation by Making Real World Media.

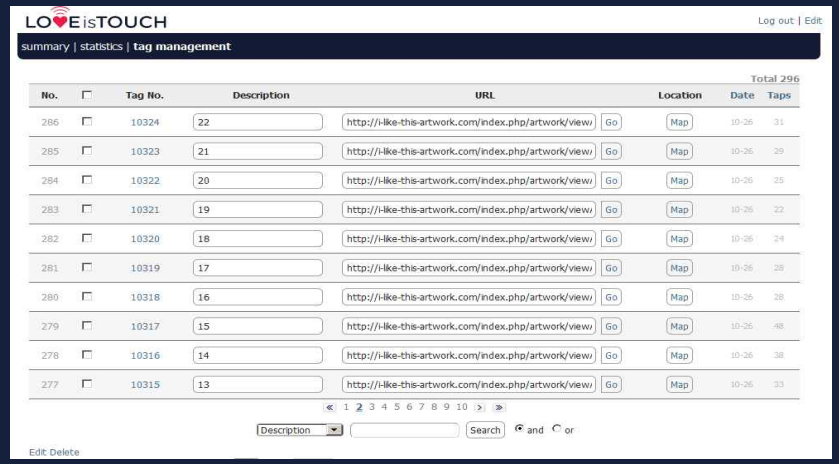
Provides a platform for mediarization of real space thus helps various economic entities efficiently create customer value and share profit.

NFC-based Mediarization Tools

Service Design Methodology

Visual design & economic validation





Utility Tag Service Management Platform

Service composition, Touch log statistics etc.

Mobile Lifelog App: “1cm”

- Profile share: "1cm buddy“, SMS, multi-profiles
- Tag Reading, Time Line, and Bookmarking
- Evolve to physical contact-based SNS

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Utility Tag Service Platform: Tag + App + Cloud

Tag

Utility Tag Services for

- WIFI Setting
- Check-in & Coupon
- Like & Comments
- Fun & Serendipity

:

:

+

App

NFC Lifelog App “1cm”

+

Cloud

Manage your tags on the Web

Customer Service through Tag-App-Cloud Collaboration

- A physical tag connected with a (semi-open) mobile app and (semi-open) tag management cloud can provide a series of virtual utility services like:
  - WiFi(SSID & passwd) Setting using the information in the cloud
  - SNS-based 'like' and comments
  - Attendance checking
  - Couponing
  - Serviceperson Call
  - Social dating (e.g. girls near you)
  - Tag match advertising
  - CRM Services
- NFC services will be flourished by (semi-)open platform service provider

Flag Tags

Various Utility Tags

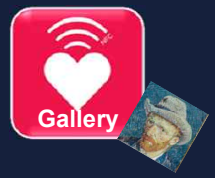
Wi-Fi Setting

Content Composition

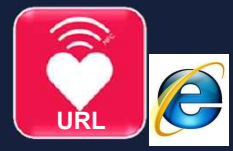
Check-in

SNS

Artistic Work



URL Redirection

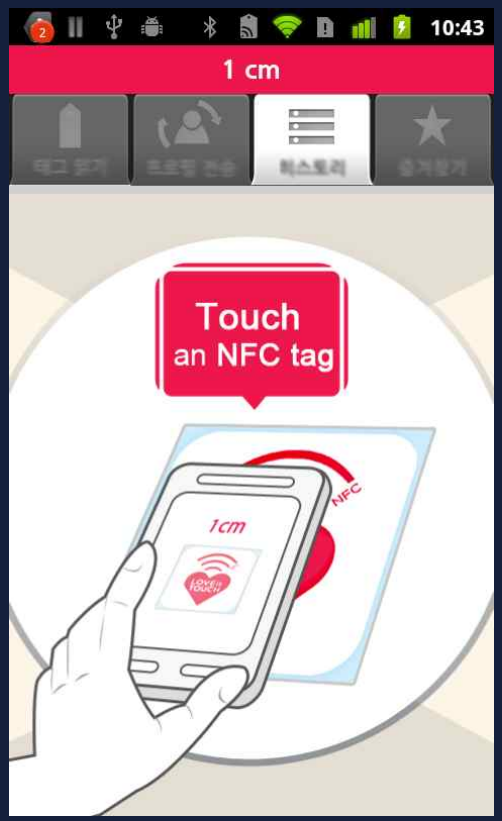


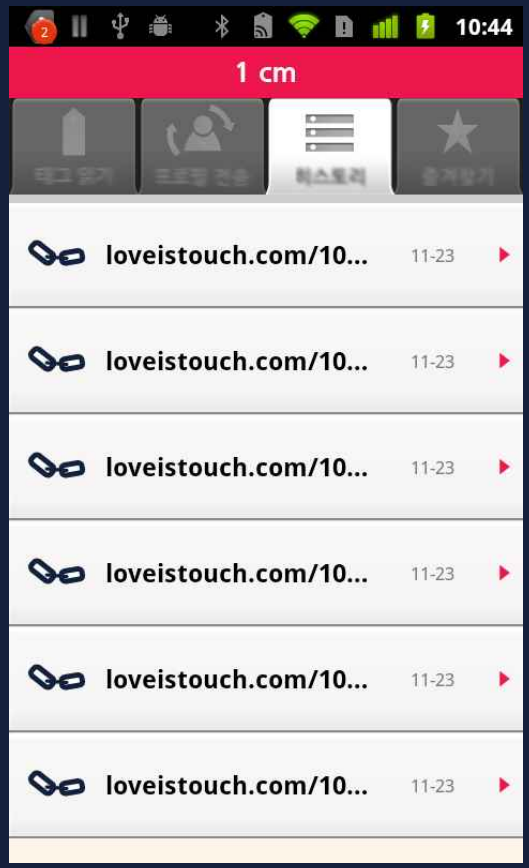
Utility Tag Service Example: WIFI Setting

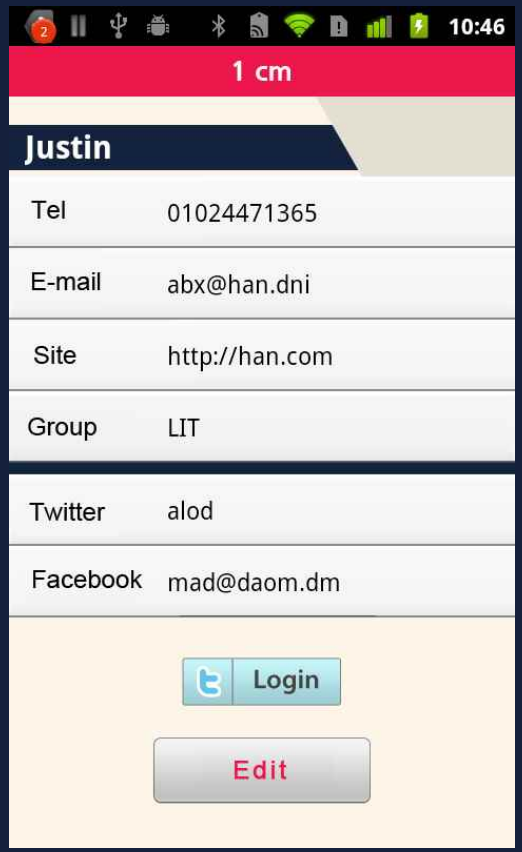
If a person touches a tag with her his smartphone, then the phone can set the wifi signal automatically, which is designated in the tag cloud.

Mobile Lifelog App: “1cm”

You can download the “1cm” application from the Android Market!
(Enter “1cm” or “loveistouch” in the search box.)







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Do you have lots of business cards?

Share your profile
more easily, quickly and immediately with "1cm" application.

Hard to find
Hard to store
Hard to modify

1cm

Easy to share
Easy to find
Easy to store
Easy to modify
…
Easy

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LOVEisTOUCH

Tag Management Cloud

태그 관리/통계

터치 통계

기간 : 2011-06-23 - 2011-06-26 [시간] [요일] [일] [월] [년] [브라우저] [OS]

년-월-일	방문자수	비율(%)	그래프
2011-06-26	1	10.0	
2011-06-25	5	50.0	
2011-06-24	1	10.0	
2011-06-23	3	30.0	
합계	10		

태그 관리

Total 59 RSS

순번		태그번호	태그설명	목적지URL		위치	날짜	조회
59	☐	10270	러브이즈터치 태그 사용 안내	http://www.loveistouch.com/attach_a_tag.php	열기		06-13	0
58	☐	10269	삼성동 맛집 안내	http://m.wingspoon.com/list/index.nhn?townId=	열기		06-07	0
57	☐	10268	삼성동 쿠폰	http://www.loveistouch.com/index.php?t=1027:	열기		06-07	0
56	☐	10267	메가박스 코엑스점 상영시간표	http://m.movie.daum.net/mobile/schedule/theat	열기		06-07	0
55	☐	10266	KRnet2011 행사일정	http://www.krnet.or.kr/prog/prog1.asp	열기		06-07	0
54	☐	10265	COEX 전시/컨벤션 일정	http://www.coex.co.kr/eventsche/display_list.asp	열기		06-07	0
53	☐	10264	삼성역 주변 노래방	http://m.map.naver.com/search.nhn?query=%E(	열기		06-07	0
52	☐	10262	대리운전 안내	http://m.map.naver.com/search.nhn?query=%E(	열기		06-07	0
51	☐	10261	러브이즈터치 SNS 공유	http://www.loveistouch.com/page/lit.php	열기		06-07	0
50	☐	10260	KRnet2011 SNS 공유	http://www.loveistouch.com/page/krnet2011.ph	열기		06-07	0

1 2 3 4 5 6 »

태그설명 [검색] ◉and ○or

선택수정 선택삭제

같은 목적지명, 목적지 URL을 갖는 URL ID를 1 개씩 [발급] (1~100개/회)

선택된 태그 URL을 이메일 주소 에게 [권한전달]

URL ID 발급 : 1 개 [발급] (1~100개/회)

Tag Management Cloud helps you,

- 1. Simply register tags

Issue URL ID : 4 issue (1~100/ for a time)

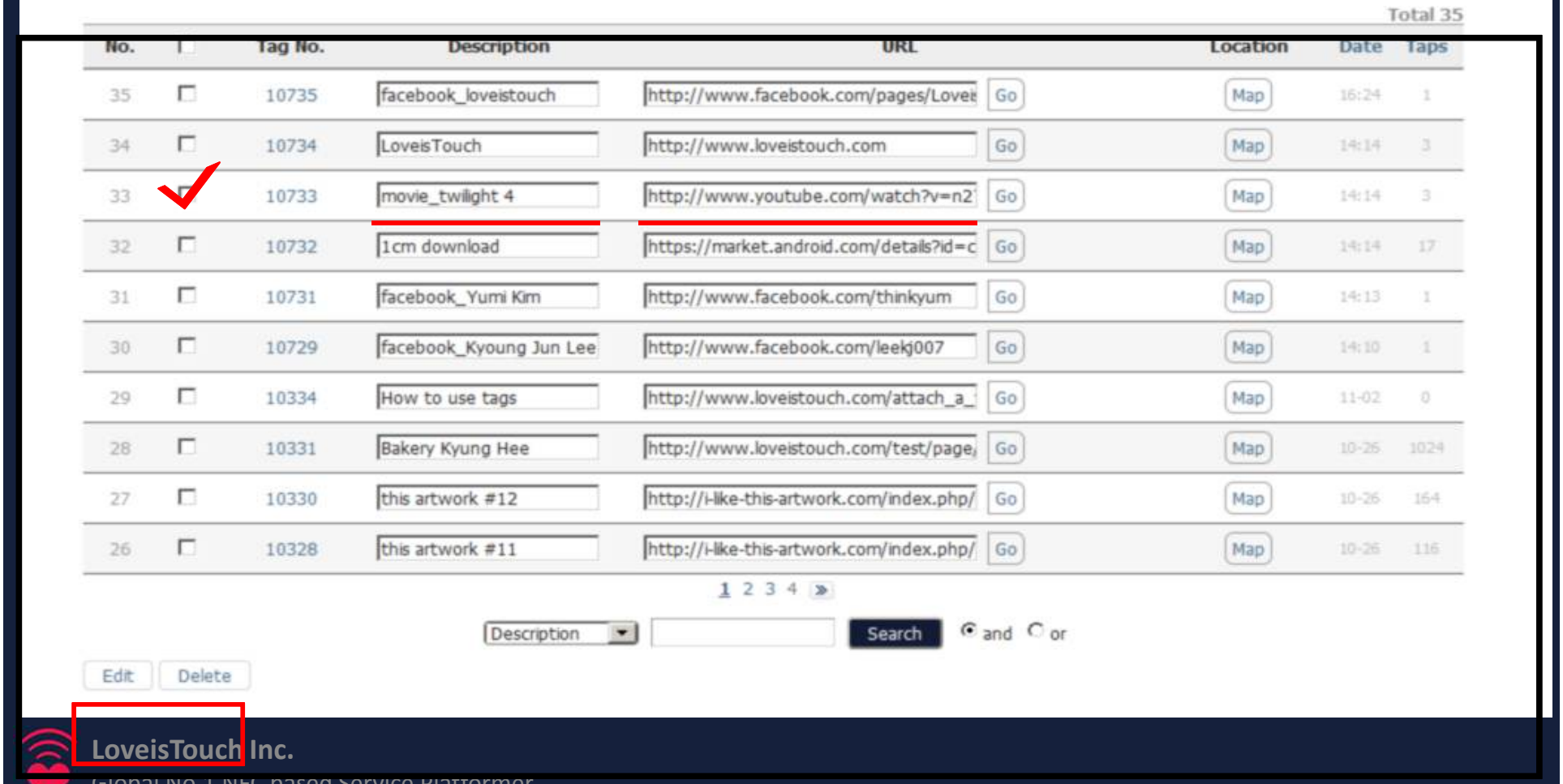
The main destination is the page of an introduction of usage for the LOVEisTOUCH tag

Inputted URL on the Tag4	Explaining the tag	data
http://www.loveistouch.com/10628	Explaining how to use the tag	http://www.loveistouch.com/attach_a_tag.php
http://www.loveistouch.com/10629	Explaining how to use the tag	http://www.loveistouch.com/attach_a_tag.php
http://www.loveistouch.com/10630	Explaining how to use the tag	http://www.loveistouch.com/attach_a_tag.php
http://www.loveistouch.com/10631	Explaining how to use the tag	http://www.loveistouch.com/attach_a_tag.php

Granted 4url.
Press the button below if you amend it.
Edit

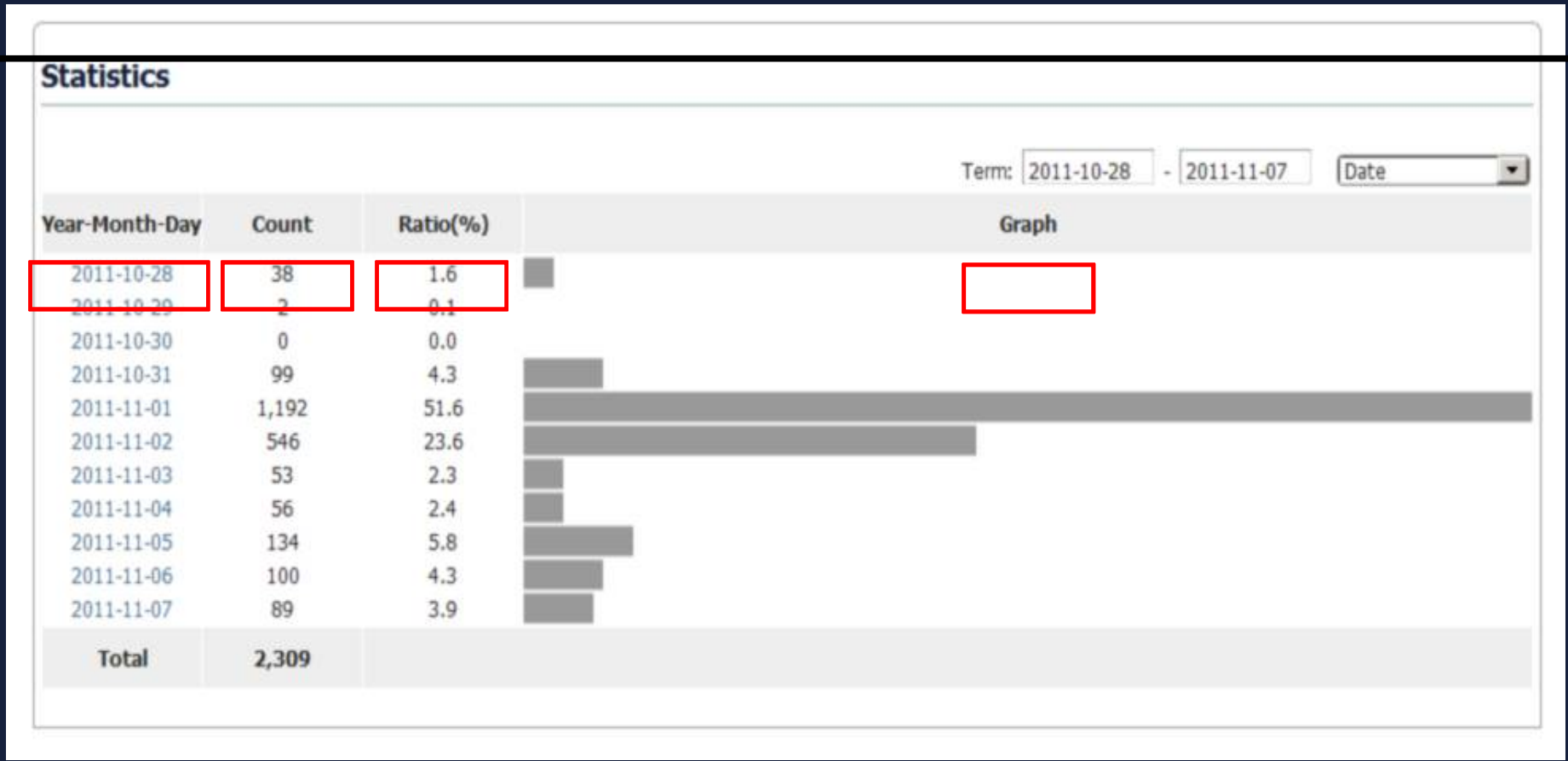
Tag Management Cloud helps you,

- 2. Easily manage your tags


Total 35
No. Tag No. Description URL Location Date Taps
35 10735 facebook_loveistouch http://www.facebook.com/pages/Lovei Go Map 16:24 1
34 10734 LoveisTouch http://www.loveistouch.com Go Map 14:14 3
33 10733 movie_twilight 4 http://www.youtube.com/watch?v=n2 Go Map 14:14 3
32 10732 1cm download https://market.android.com/details?id=c Go Map 14:14 17
31 10731 facebook_Yumi Kim http://www.facebook.com/thinkyum Go Map 14:13 1
30 10729 facebook_Kyoung Jun Lee http://www.facebook.com/leekj007 Go Map 14:10 1
29 10334 How to use tags http://www.loveistouch.com/attach_a_ Go Map 11-02 0
28 10331 Bakery Kyung Hee http://www.loveistouch.com/test/page/ Go Map 10-26 1024
27 10330 this artwork #12 http://i-like-this-artwork.com/index.php/ Go Map 10-26 164
26 10328 this artwork #11 http://i-like-this-artwork.com/index.php/ Go Map 10-26 116
1 2 3 4 »
Description Search and or
Edit Delete

Tag Management Cloud helps you,

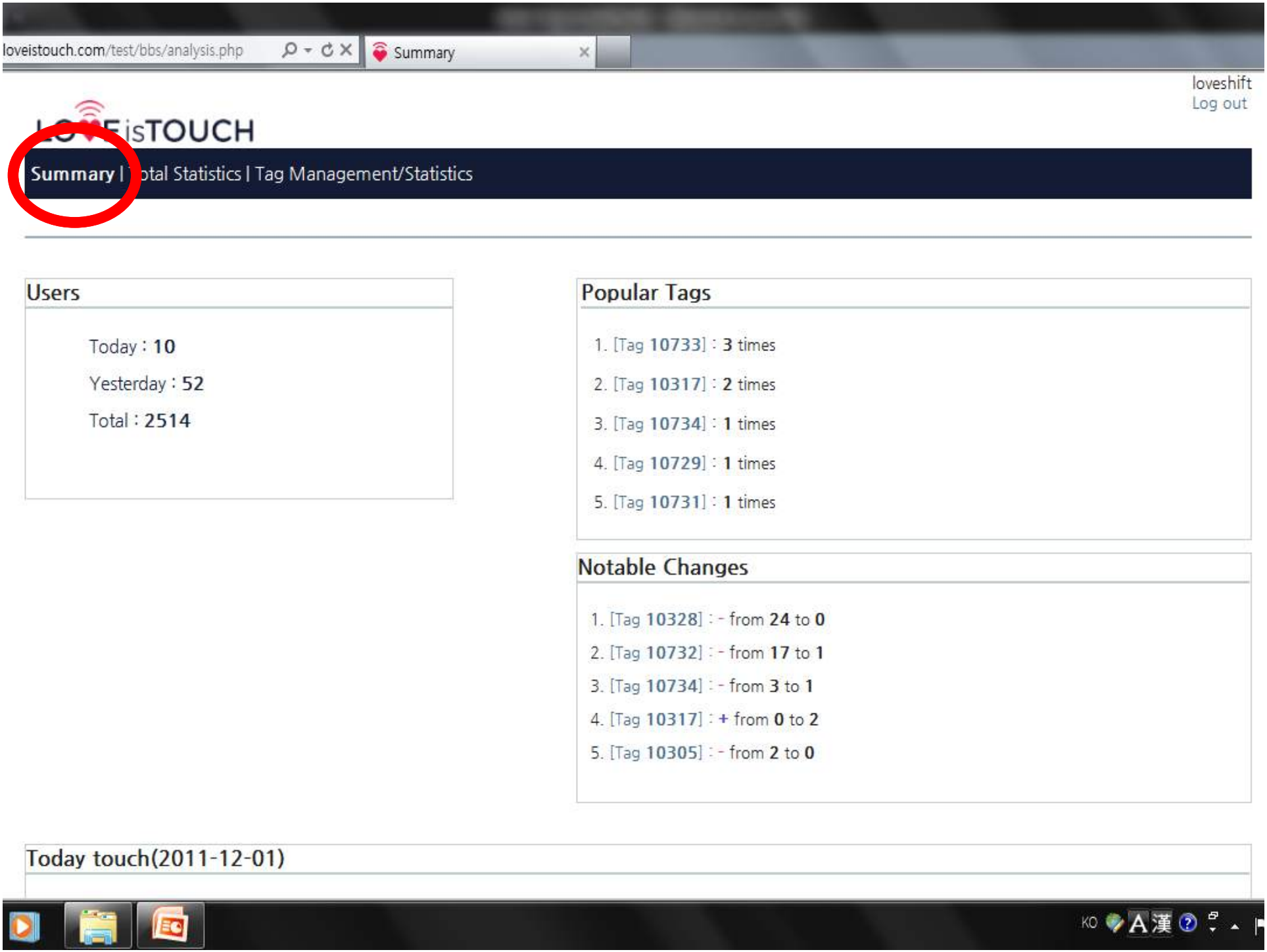
- 3. Check tag usage statistics

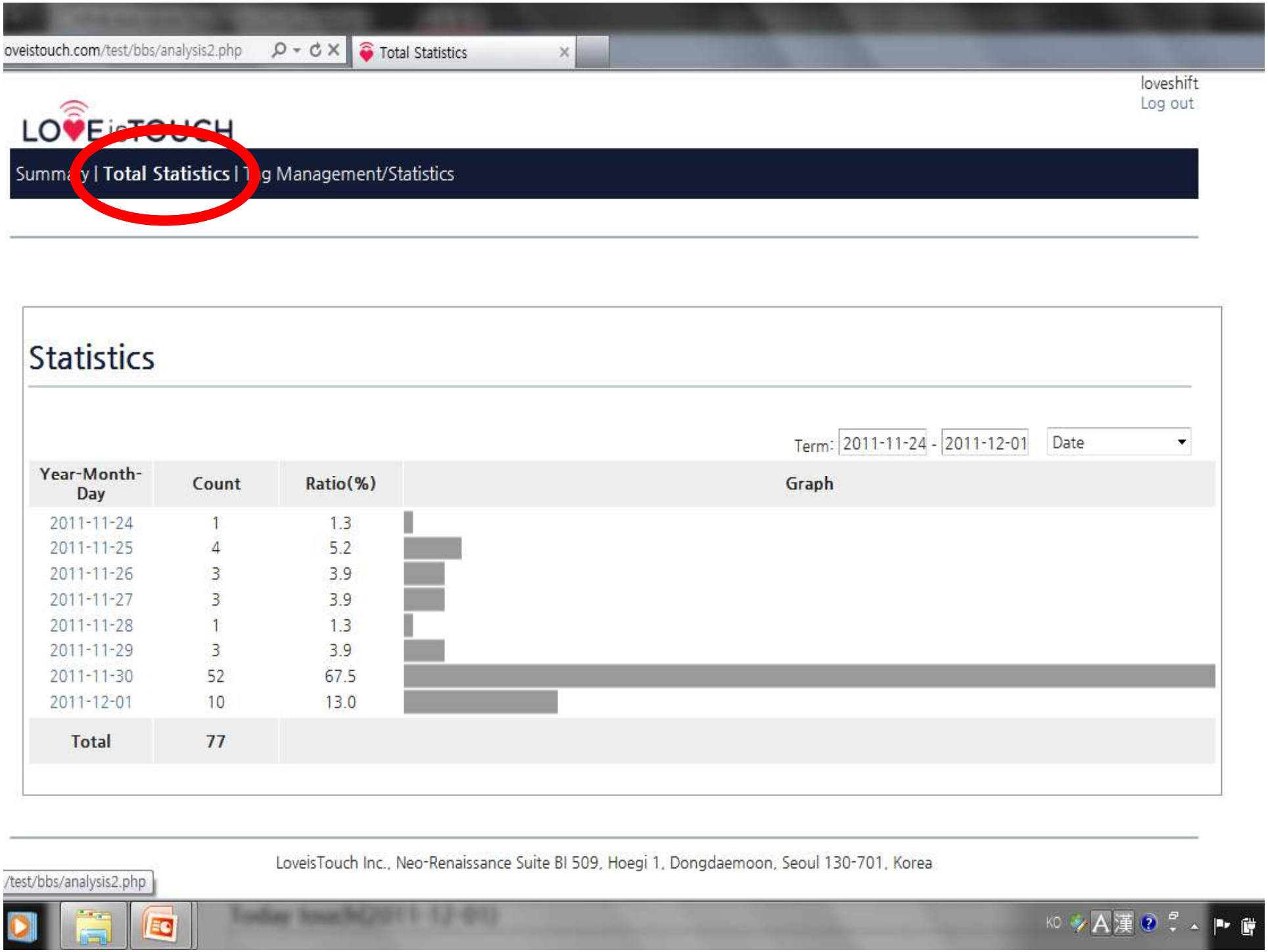


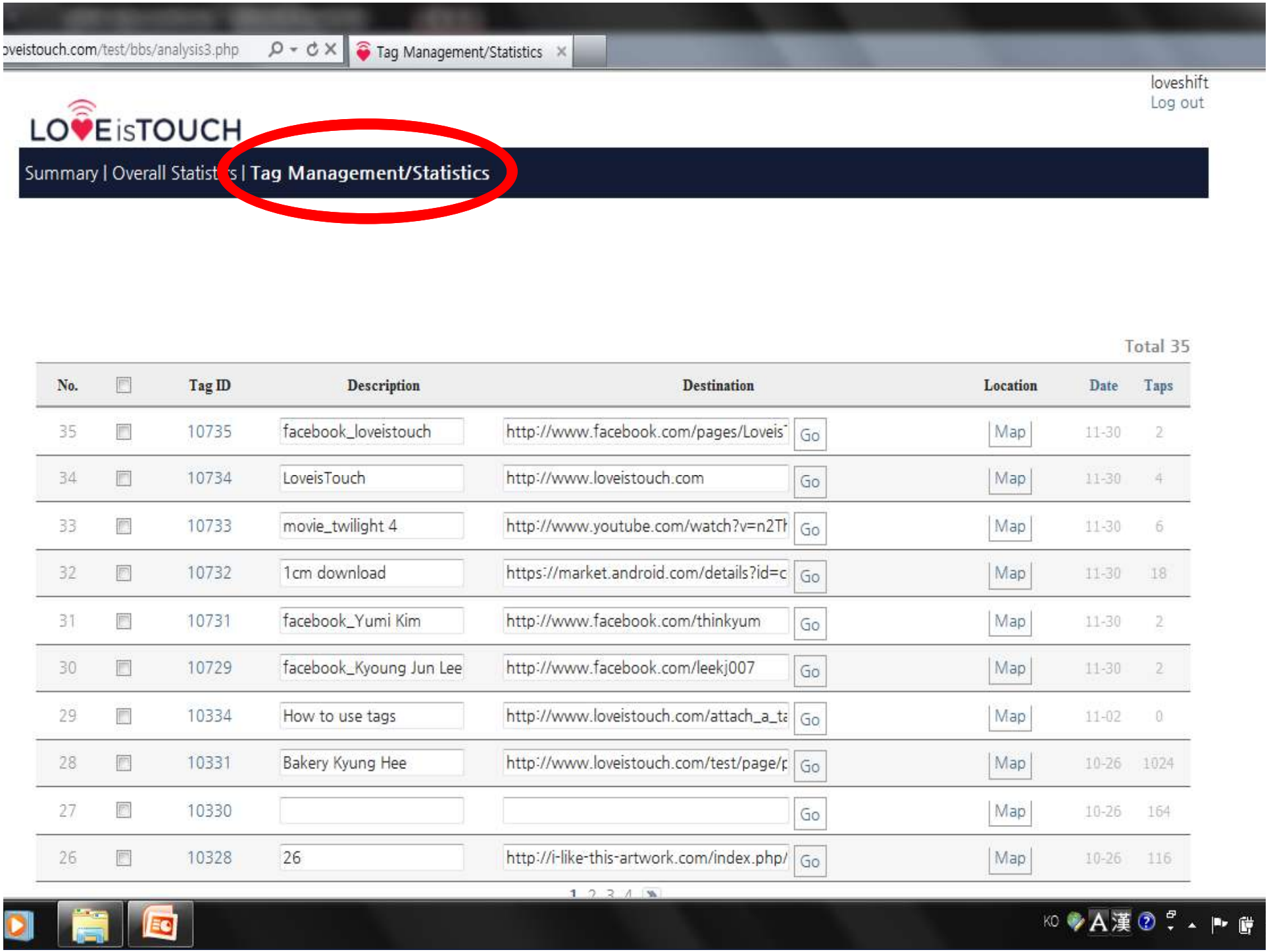
Statistics

Term: 2011-10-28 - 2011-11-07 Date

Year-Month-Day	Count	Ratio(%)	Graph
2011-10-28	38	1.6	
2011-10-29	2	0.1	
2011-10-30	0	0.0	
2011-10-31	99	4.3	
2011-11-01	1,192	51.6	
2011-11-02	546	23.6	
2011-11-03	53	2.3	
2011-11-04	56	2.4	
2011-11-05	134	5.8	
2011-11-06	100	4.3	
2011-11-07	89	3.9	
Total	2,309		

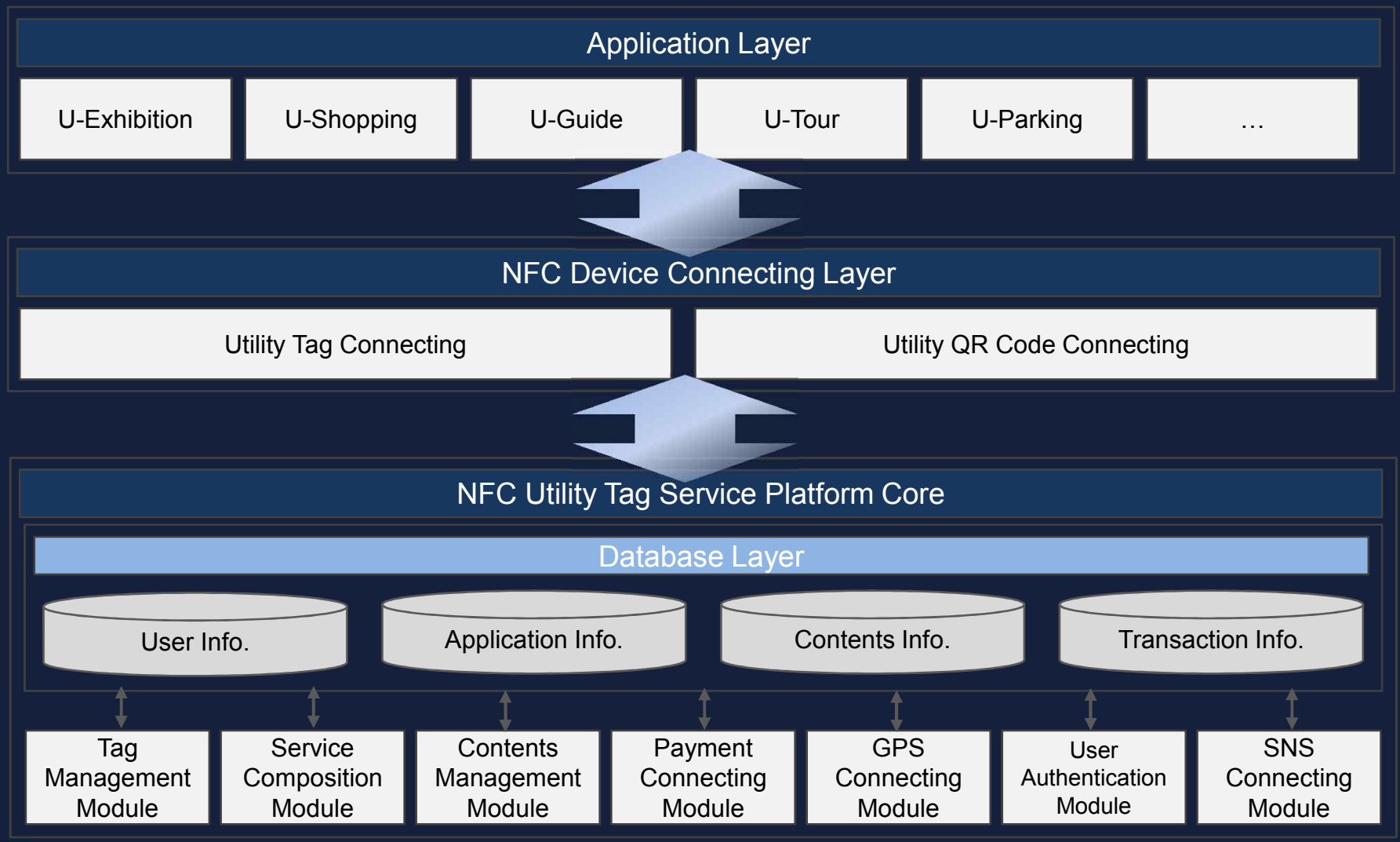

loveistouch.com/test/bbs/analysis.php
Summary
loveshift
Log out
LOVE isTOUCH
Summary | Total Statistics | Tag Management/Statistics
Users
Today : 10
Yesterday : 52
Total : 2514
Popular Tags
1. [Tag 10733] : 3 times
2. [Tag 10317] : 2 times
3. [Tag 10734] : 1 times
4. [Tag 10729] : 1 times
5. [Tag 10731] : 1 times
Notable Changes
1. [Tag 10328] : - from 24 to 0
2. [Tag 10732] : - from 17 to 1
3. [Tag 10734] : - from 3 to 1
4. [Tag 10317] : + from 0 to 2
5. [Tag 10305] : - from 2 to 0
Today touch(2011-12-01)


oveistouch.com/test/bbs/analysis2.php
Total Statistics
loveshift
Log out
LOVE is TOUCH
Summary | Total Statistics | Log Management/Statistics
Statistics
Term: 2011-11-24 - 2011-12-01
Date
Year-Month-Day
Count
Ratio(%)
Graph
2011-11-24 1 1.3
2011-11-25 4 5.2
2011-11-26 3 3.9
2011-11-27 3 3.9
2011-11-28 1 1.3
2011-11-29 3 3.9
2011-11-30 52 67.5
2011-12-01 10 13.0
Total 77
LoveisTouch Inc., Neo-Renaissance Suite BI 509, Hoegi 1, Dongdaemoon, Seoul 130-701, Korea
/test/bbs/analysis2.php


oveistouch.com/test/bbs/analysis3.php
Tag Management/Statistics
loveshift
Log out
LOVEisTOUCH
Summary | Overall Statist s | Tag Management/Statistics
Total 35
No. | Tag ID | Description | Destination | Location | Date | Taps
35 | 10735 | facebook_loveistouch | http://www.facebook.com/pages/Loveis | Go | Map | 11-30 | 2
34 | 10734 | LoveisTouch | http://www.loveistouch.com | Go | Map | 11-30 | 4
33 | 10733 | movie_twilight 4 | http://www.youtube.com/watch?v=n2Th | Go | Map | 11-30 | 6
32 | 10732 | 1cm download | https://market.android.com/details?id=c | Go | Map | 11-30 | 18
31 | 10731 | facebook_Yumi Kim | http://www.facebook.com/thinkyum | Go | Map | 11-30 | 2
30 | 10729 | facebook_Kyoung Jun Lee | http://www.facebook.com/leekj007 | Go | Map | 11-30 | 2
29 | 10334 | How to use tags | http://www.loveistouch.com/attach_a_ta | Go | Map | 11-02 | 0
28 | 10331 | Bakery Kyung Hee | http://www.loveistouch.com/test/page/p | Go | Map | 10-26 | 1024
27 | 10330 | | | Go | Map | 10-26 | 164
26 | 10328 | 26 | http://i-like-this-artwork.com/index.php/ | Go | Map | 10-26 | 116
1 2 3 4
KO A 漢

Real World Mediated by NFC Tags

Architecture of the Platform



Touch Me!

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    - Facebook.com/leekj007
    - +82-70-4006-5299
    - +82-10-3775-1952